

21. What is the difference between $\text{LiCl}(s)$ and $\text{LiCl}(aq)$?

One is a solid ionic compound (s) and the other is aqueous (aq) so it's dissolved in water

LESSON 7: The Copper Cycle

22. List the copper compounds (names & formulas) formed in each step of the copper cycle:

- Solid copper powder was obtained: copper : $\text{Cu}(s)$
- Nitric acid, $\text{HNO}_3(aq)$, was added: copper(II) nitrate : $\text{Cu}(\text{NO}_3)_2(aq)$
- Sodium hydroxide, $\text{NaOH}(aq)$, was added: copper(II) hydroxide : $\text{Cu}(\text{OH})_2(s)$
- The solution was heated and filtered: copper(II) oxide : $\text{CuO}(s)$
- Sulfuric acid, $\text{H}_2\text{SO}_4(aq)$, was added: copper(II) sulfate : $\text{CuSO}_4(aq)$

23. What are some observations that indicate that a chemical change has occurred?

color change, bubbling, formation of a precipitate

24. Why is adding nitric acid to copper a chemical reaction but a puddle evaporating is not?

The first changes the chemical identity of the substance from Cu to $\text{Cu}(\text{NO}_3)_2$ while evaporating only changes the state of matter w/out changing the chemical formula

LESSON 8: Conservation of Matter

25. How did the copper cycle lab show the law of conservation of matter? What is the law of conservation of matter?

- Cu atoms were present throughout the entire cycle
- Law states that in a chemical reaction, matter cannot be created or destroyed.

LESSON 9: Properties of the Elements

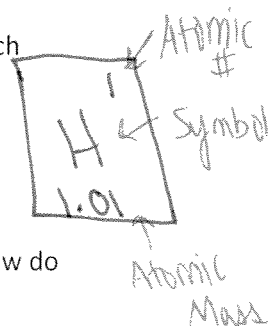
26. How did Mendeleev organize his periodic table?

He grouped elements with similar reactivity and ordered the elements by their atomic weights

27. On a basic periodic table (like the one in our classroom), what information is provided in each element square?

Symbol, Atomic #, Atomic Mass

ex.



28. Magnesium reacts with chlorine to form MgCl_2 . How will strontium react with chlorine? How do you know?

It will form SrCl_2 . Elements in the same group have similar properties like reactivity